

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTONTHE TUCO-TUCOS OF PERU (GENUS *CTENOMYS*)

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The South American burrowing rodents of the genus *Ctenomys* reach their northern limit on the high plateau of southern Peru. The genus was formerly represented in this area by *Ctenomys opimus nigriceps* Thomas described from Tetiri, southwest of Puno, in 1900. Recently the Peruvian Zoological Expedition 1941-42 of Chicago Natural History Museum and Dr. Oliver P. Pearson collecting for the Museum of Comparative Zoology, Harvard University, have collected two other members of the genus, one of which proves to be a new species and is here described as

Ctenomys peruanus sp. nov.

Type from Pisacoma, alt. 14,000 ft., Department of Puno, southern Peru. No. 52467 Chicago Natural History Museum. Adult female, skin and skull. Collected September 1, 1941, by Colin C. Sanborn. Original number 2782.

Characters.—A large, pale, dark-footed species, with broadly expanding zygomatic arches, sagittal crest, and a reduced last molar.

Color.—Back, sides and belly Cream-Buff (Ridgway, 1912) heavily lined with black to give a general effect of Wood Brown. In the type and two other specimens a sharp molt line separates the back from the paler rump on which the hairs have much reduced dark tips or lack them entirely. Nose, lips, ears, and surrounding fur dark Clove Brown. In the type a line of the same color extends from the nose to between the ears but is faint or absent in other specimens. Hind feet dark Clove Brown, slightly lighter in some specimens. Tail like the feet or Tawny. Front feet color of body.

Skull.—Zygoma broadly expanding anteriorly, so much so that zygomatic width in adults is greater than distance between outer edges of the bony auditory meatus (hereinafter called the intermeatal width). The last molar is reduced, about one quarter the size of the other molars. Even in the females there is a sagittal crest. Top of skull moderately arched.

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Measurements.—Type (5 adult females in parentheses). Total length 310 mm. (271-327); tail 88 (68-89); hind foot 41 (34-41). Four males measured but not saved, total length 296-325; tail 80-89; hind foot 40-44, ear 8-10. Skull: (two topotypes in parentheses) greatest length 53.8 (54.9-55.8); condylo-basal length 50 (51.5-51.9); interorbital width 10.7 (11.1-12); zygomatic width 34.8 (34.9); intermeatal width 33.1 (34); width of brain case 19.7 (18.5-19.4); upper tooth row 11.2 (11.6-12.4); bullae 18.9 x 8.4 (19.1-19.7 x 8.5-8.7); nasals 21.5 x 8.5 (21.6-22.5 x 9.3-8.8).

Specimens examined.—Peru: Puno; Pisocoma 4 (C.N.H.M.), Mazocruz 3 (M.C.Z.).

Remarks.—The size, color pattern, and reduced last molar seem to indicate a relationship to *C. fulvus* and *C. robustus* of northern Chile. These are both larger, especially *robustus*, than *peruanus* and have larger bullae, less arched skulls, and a zygomatic width less than intermeatal width. For an animal like *Ctenomys* that may vary from one colony to another, there is not yet sufficient material from this region to determine subspecifically its exact relationship. There are still many localities in the mountains of southern Peru and northern Chile that have not been collected but where *Ctenomys* may exist.

Another species of tucú-tucú long known from Bolivia but not heretofore recorded from Peru is

Ctenomys leucondon Waterhouse

Ctenomys leucondon Waterhouse, Nat. Hist. of the Mammalia, 2, p. 281, 1848.

[*Ctenomys*] (*Haptomys*) [*leucondon*] Thomas, Ann. Mag. Nat. Hist., (8), 18, p. 304, 1916.

Specimens examined.—Peru: Puno; Rio Ceallacami, near Huacullani, 3 females (C.N.H.M.).

The general appearance of the backs of these specimens is close to Clay Color (Ridgway, 1912). The bases of all hairs are slate gray followed by either a very broad or very narrow band of Clay Color and tipped with black, the amount of black depending on wear. The head and between the ears is much darker, the sides of muzzle and cheeks close to Buckthorn Brown. The under parts near Tawny Olive, more reddish on chest. This agrees in general with Waterhouse's description. The tail is dark brown above and faintly lighter beneath, not dirty white as given in the original description and without a crest of long whitish hairs. The hairs on the feet are grayish white rather than pale rufous. The ridge on the under side of the nails appears to be longer than noted by Waterhouse.

Measurements.—Total length 265-278; tail 68-78; hind foot 35. Skull: greatest length 48.9-49.1; condylo-basal length 45.4-45.7; zygomatic width 30.4-30.6; intertemporal width 10-11; interorbital width 8.2-8.9; greatest width across bulba 8.9-8.9; width back of zygoma 18.5-18.9; diastema 13.9-13.9; length upper tooth row 9.9-10.2.

Remarks.—The type locality is San Andres de Machaca, south of Lake Titicaca in the Department of La Paz, Bolivia. The present specimens were collected about 20 to 30 miles northwest of San Andres. These appear to be the first specimens recorded since the original description.

Ctenomys opimus nigriceps Thomas

Ctenomys opimus Thomas, Ann. Mag. Nat. Hist., (6), 20, p. 550, 1897—Puno, Peru.

Ctenomys opimus nigriceps Thomas, Ann. Mag. Nat. Hist., (7), 6, p. 383, Oct. 1900.

Type locality.—Tetiri, Puno, Peru. Thomas gives the locality as "about 40 miles W. of Puno, on the Puno-Moquegua road, altitude 16,000 feet." Moquegua is southwest of Puno.

Specimens examined.—Peru: Puno; Caccachara, S.W. of Ilave, 16,000 ft. 3 females (M.C.Z.).

The specimens from Puno agree almost perfectly with Thomas' description and are close enough within the region of the type locality to be considered topotypes. Compared with a series of *Ctenomys* from Mt. Sahama, Bolivia, which Thomas considered typical of *C. opimus* the most noticeable difference aside from the darker general color, is the deeper black on the head, face and throat in *nigriceps*. The sides of the muzzle and chin are not black in *opimus*. A specimen from Choquelimpie, Prov. Tacna, Chile, 15,000 ft., while dark enough to be considered *nigriceps* lacks the black chin and muzzle and was referred to *opimus* by Osgood.

Measurements.—Total length 252, 269, 270; tail 80, 81, 84; hind foot 35, 36, 37; ear 7, 7, 8. Skull: greatest length 46.2, 47.4, 47.5; condylo-basal length 44.1, 44.3, 44.5; zygomatic width 28.2, 28.3, 29.6; intermental width 28.9, 28.9, 29.2; interorbital width 9.5, 10.1, 10.3; breadth of brain case 18.2, 18.5, 18.6; length of nasals 16.1, 16.5; upper tooth row 10.0, 10.4, 10.5.

Remarks.—Judging from sight records the ranges of *C. o. nigriceps* and *C. peruanus* overlap near Santa Rosa. *C. o. nigriceps* did not call when underground, the usual custom of *Ctenomys*.

Association of *Ctenomys* and *Galea*

The Peruvian Zoological Expedition 1941-42 made a special trip to the southern part of the Department of Puno to collect topotypes of the guinea pig, *Galea musteloides* Meyen. These were first found in large numbers where the road crossed the Rio Ccallacami, near Hucallani and again in the broad river valley close to the town of Pisacoma. Near Huacullani they were living in burrows made by *Ctenomys leucodon* and at Pisacoma in the burrows of *Ctenomys peruanus*.

There were many *Galea* but few *Ctenomys* in the Huacullani colony and the *Galea* were very tame and could be approached closely. At Pisacoma *Ctenomys peruanus* greatly outnumbered the *Galea*, which were wary and difficult to approach. When the colony was visited the many *Ctenomys* gave their alarm call and the *Galea* took cover on hearing it. So *Galea* not only used *Ctenomys* as a home builder but also reacted to its alarm calls in time of danger. The association was also noted by Pearson at Mazocruz and Huari Huarani.

The Aymara name "tocoro" is used in southern Peru for *Ctenomys* instead of tuco-tuco, the common name in Argentina and Chile.